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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/934,661      | 08/22/2001  | Richard Scheps       | 80118               | 7922             |

7590 04/08/2004

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| EXAMINER |
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LEUNG, QUYEN PHAN

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2828

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/934,661             | SCHEPS, RICHARD     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Quyen P. Leung         | 2828                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 22 December 2003.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-33 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Response to Arguments***

1. Applicant's arguments filed 12/22/2003 have been fully considered but they are not persuasive. Applicant made the following argument:

"Burnham's invention uses an optical parametric oscillator (OPO) or parametric amplifier (OPA) that generate two waves of longer wavelength than the input wave... Applicant's invention, on the other hand, uses an entirely different technique—a Raman crystal, which changes the frequency of the input beam to the eye-safe wavelength range."

In response, Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Applicant's claim 1 reads as follows:

1. An eye-safe laser comprising:
  - a laser for coupling to a source of pump energy to generate laser energy; and
  - a wavelength shifting crystal coupled to the laser for generating eye-safe light from the laser energy.

Burnham's abstract clearly anticipates the claim:

[57]

**ABSTRACT**

An eye-safe laser operating at high efficiency, pulse repetition rate and power output is described. The laser comprises a diode-array pumped laser having a pumping wavelength range which produces a polarized output beam. The output beam passes through a nonlinear tunable parametric converter crystal having X, Y, and Z principal axes. Noncritical phase matching is produced in said laser by phase matching for a beam propagation parallel to a principal axis which results in a high efficiency of laser operation. The nonlinear tunable parametric converter crystal converts the wavelength of an otherwise unsafe laser beam output to one that is harmlessly absorbed by the human eye.

Note the last line of the abstract which teaches the wavelength shift crystal (nonlinear tunable parametric converter crystal) for generating eye-safe light from the laser energy.

***Claim Rejections - 35 USC § 102***

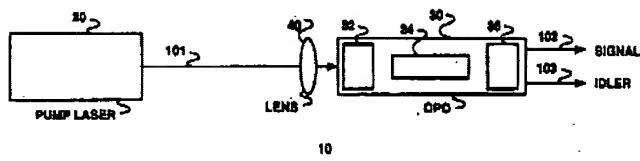
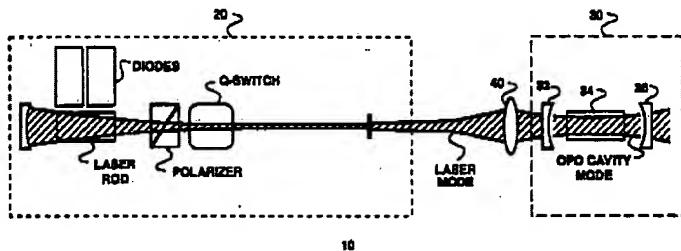
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Burnham et al (5,181,211). Burnham discloses the claimed invention. Note figures 1

and 2 for the laser diode array pump (diodes), a laser (laser rod), a wavelength shifting



crystal (34), a passive Q-switch (Q-switch), a focusing lens (40), an input coupler (32) and an output coupler (36). It is inherent that the laser light is 1.3 microns because Burnham teaches the same material (Nd:YAG or equivalently Nd:YAlO<sub>3</sub>) for the laser as applicant.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quyen P. Leung whose telephone number is (571)272-1943. The examiner can normally be reached on 9-5:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571)272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Quyen P. Leung  
Primary Examiner  
Art Unit 2828

QPL